DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. The finality of the last Office action was deemed improper and prosecution has been reopened accordingly.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made

in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 1-2, 5-10, and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Galis et al. (US Patent # 5,175,800)** in view of **Carter (US Patent # US 7,130,898 B2)** in further view of **Helgren et al. (US Patent # 7,051,243 B2).**

a) Consider **claim 1,** Galis et al. clearly show and disclose, a network management system for implementing a service on a network (abstract, column 5 lines 38-49, column 9 lines 25-30, column 11 lines 23-30), said network management system comprising: means for transmitting the determined commands to network elements of the network (abstract, column 5 lines 45-49, column 11 lines 54-60); and means for inferring said policy rules in order to determine said commands (figure 9b, column 13 lines 23-33, column 32 lines 7-11); and implementation rules (column 14 lines 21-35 lines 38-42, column 17 lines 58-63), wherein said implementation rules comprise technology rules and equipment rules (figure 9b, figure 9c, abstract, column 14 lines 21-35 lines 38-42, column 17 lines 58-63, column 46 lines 40-66, column 47 lines 25-29), and wherein the technology rules model expert know-how (abstract, column 24 lines 8-16, column 42 lines 40-53, column 46 lines 40-66, column 47 lines 25-29). However, Galis et el. does not specifically disclose means for acquiring policy rules for configuring said service; means for determining commands corresponding to said policy rules; wherein said policy rules comprise services rules which create a service in the network, implementation rules for creating said service and stored attributes of the service or specifying how to determine technology to use in the service being created based on stored attributes of equipment in the network.

Carter shows and discloses a mechanism for facilitating the invocation of a service, wherein Carter discloses a means for acquiring policy rules for configuring said service (abstract, column 2 lines 8-28); means for determining commands corresponding to said policy rules (abstract, column 2 lines 8-28); wherein said policy rules comprise services rules which create a service in the network (abstract, column 2 lines 8-28, column 3 lines 13-46, column 4 lines 56-67, column 5 lines 1-14), implementation rules for creating said service (abstract, column 2 lines 8-28, column 3 lines 13-46, column 4 lines 56-67, column 5 lines 1-14) and stored attributes of the service (column 3 lines 13-34, column 9 lines 47-67, column 10 lines 1-5).

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Carter and Galis et al. as modified by Carter since both concern configuration of networked systems and as such, both are with in the same environment.

Therefore, it would have been obvious to one of ordinary skill in the art that the time the invention was made to incorporate invocation of a service, as taught by, Carter into the system of Galis et al. for the purpose facilitating the invocation of a services by automating the process (Carter; Column 2 lines 50-56), thereby simplifying the service definition process such that a relatively low-skilled end user can perform it. However, Galis et al. as modified by Carter does not specifically disclose specifying how to determine technology to use in the service being created based on stored attributes of equipment in the network.

Helgren et al. show and disclose hardware and/or software configuration of computer systems, and more particularly to identifying known problems or issues with the configuration, wherein Helgren et al. disclose specifying how to determine technology to use in the service being created based on stored attributes of equipment in the network (recommendations)(abstract, column 2 lines 20-29, column 3 lines 54-57 lines 63-67, column 4 lines 1-9 lines 29-50).

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Helgren et al. and Galis et al. as modified by Carter since both concern configuration of networked systems and as such, both are with in the same environment.

Therefore, it would have been obvious to one of ordinary skill in the art that the time the invention was made to incorporate specifying how to determine technology to use based on store attributes of equipment (i.e. recommendations), as taught by, Helgren et al. into the system of Galis et al. as modified by Carter for the purpose of identifying potential problems with a system configuration (Helgren; column 2 lines 1-19), thereby avoiding potential problems with the system configuration.

b) Consider **claim 2,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1, wherein said inference means comprises an inference engine provided in the network management system and external to the network comprising the network elements (figure 9B, abstract, column 13 lines 23-33, column 32 lines 7-11).

c) Consider **claim 5,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1, wherein the service rules are provided externally from the network management system and wherein the service rules specify conditions and timing for creating the service (figure 9b, column 5 lines 38-45, column 9 lines 30-45; Carter abstract, column 1 lines 41-62, column 2 lines 8-28, column 4 lines 27-51 lines 56-67, column 5 lines 1-15).

d) Consider **claim 6,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 4, wherein the technology rules specify which protocol to use for the service based on the attributes of the equipment in the network (column 14 lines 60-67) and wherein the equipment rules model how to select the technology rules based on the attributes of the equipment (column 17 lines 58-63).

e) Consider **claim 7,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1, wherein the service is created via the service rules independently from specifications of equipment and technology specified in the implementation rules (figure 9b, column 9 lines 30-45, column 13 lines 11-17, column 17 lines 58-63, column 46 lines 40-66, column 47 lines 25-29) and wherein the implementation rules are dynamically implemented after the determining means determines applicable implementation rules (column 13 lines 21-33, column 46 lines 58-66, column 47 lines 25-29).

f) Consider **claim 8,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1, wherein the service is created via the service rules by an operator without requiring specific knowledge of equipment and technology of the network for the service (Carter; abstract, column 2 lines 50-56 lines 8-28, column 3 lines 28-33).

g) Consider **claim 9,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1, wherein the implementation rules specify implementation specific details of the service

(Carter; abstract, column 2 lines 8-28, column 3 lines 13-46, column 4 lines 56-67, column 5 lines 1-14).

h) Consider **claim 10,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1, wherein the implementation rules specify attributes of the service (Carter; abstract, column 2 lines 8-28, column 3 lines 13-33).

i) Consider **claim 13,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1, wherein the service rules are used to model how the equipment rules must be selected for a particular equipment type (column 17 lines 58-63).

6. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Galis et al. (US Patent # 5,175,800)** in view of **Carter (US Patent # US 7,130,898 B2)** in view of **Helgren et al. (US Patent # 7,051,243 B2)** in further view of **Newton (Newton's Telecom Dictionary, VPN, page 982-983).**

a) Consider **claim 11,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly shows and discloses, the network management system claimed in claim 1. However, Galis et al. as modified by Carter as modified by Helgren et al. does not specifically disclose the service is a virtual private network.

Newton shows and discloses that a virtual private network is a service that can be implemented on a network (Newton, definition of VPN (virtual private network) page 982-983).

Therefore, it would have been obvious to one of ordinary skill in the art that the time the invention was made to incorporate the teachings of Newton into the system of Galis et al. as

modified by Carter as modified by Helgren et al. for the purpose of creating a service on a public network with the characteristics of a private network.

7. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Galis et al. (US Patent # 5,175,800)** in view of **Carter (US Patent # US 7,130,898 B2)** in view of **Helgren et al. (US Patent # 7,051,243 B2)** in further view of **Ballantine et al. (US Patent # US 6,446,123 B1).**

a) Consider **claim 12,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1. However Galis et al. as modified by Carter as modified by Helgren et al. does not specifically disclose the technology to be used is determined based on a number of sites involved in a particular network.

Ballantine et al. show and disclose monitoring network performance, traffic, inventory, breakdown, repair activity, and other conditions, alerts a user to anticipated problems based upon projection of performance and related data, wherein the technology to be used is determined based on a number of sites involved in a particular network (abstract, column 5 lines 35-62).

Therefore, it would have been obvious to one of ordinary skill in the art that the time the invention was made to incorporate determining the technology to use based on network information (i.e. network inventory), as taught by, Ballantine et al. into the system of Galis et al. as modified by Carter as modified by Helgren et al. for the purpose of planning based on network information (Ballantine; column 5 lines 35-44).

8. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Galis et al. (US Patent # 5,175,800)** in view of **Carter (US Patent # US 7,130,898 B2)** in view of **Helgren et al. (US Patent # 7,051,243 B2)** in further view of **Abaye et al. (US Patent # US 7,024,475 B1).**

a) Consider **claim 14,** and **as applied to claim 1 above,** Galis et al. as modified by Carter as modified by Helgren et al. clearly show and disclose, the network management system claimed in claim 1. However, Galis et al. as modified by Carter as modified by Helgren et al. does not specifically disclose the particular equipment type is selected based on their capacity.

Abaye et al. show and disclose performance modeling of a communications system, such as one that provides for communications of streaming data, wherein the particular equipment type is selected based on their capacity (column 1 lines 64-67, column 2 lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art that the time the invention was made to incorporate selection of equipment based on their capacity, as taught by, Abaye et al. into the system of Galis et al. as modified by Carter as modified by Helgren et al. for the purpose of proper network planning when deploying a communications systems (Abaye; column 1 lines 64-67, column 2 lines 1-10).

Response to Arguments

Applicant argues that "…Galis does not teach or suggest creating a service using implementing rules that comprise technology rules and equipment rules."

In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Galis et al. clearly disclose, a network management system for implementing a network (abstract, column 5 lines 38-49, column 9 lines 25-30, column 11 lines 23-30), said network management system comprising: means for transmitting the determined commands to network elements of the network (abstract, column 5 lines 45-49, column 11 lines 54-60); and means for inferring said policy rules in order to determine said commands (figure 9b, column 13 lines 23-33, column 32 lines 7-11); and implementation rules (column 14 lines 21-35 lines 38-42, column 17 lines 58-63), wherein said implementation rules comprise technology rules and equipment rules (figure 9b, figure 9c, abstract, column 14 lines 21-35 lines 38-42, column 17 lines 58-63, column 46 lines 40-66, column 47 lines 25-29), and wherein the technology rules model expert know-how (abstract, column 24 lines 8-16, column 42 lines 40-53, column 46 lines 40-66, column 47 lines 25-29).

Carter clearly discloses creating a service using implementing rules that comprise technology rules and equipment rules (abstract, column 2 lines 8-28, column 3 lines 13-46, column 4 lines 56-67, column 5 lines 1-14, column 9 lines 47-67, column 10 lines 1-5).

Galis et al. clearly teaches the creating and configuring of a computer network and Carter teach the creating and configuring of network services. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Carter and Galis et al. since both concern the configuration of networked systems and as such, both are with in the same environment.

Applicant argues that "…since Galis does not even teach or suggest creating a service using service rules and implementation rules, one of ordinary skill in the art would not have been motivated to modify the teaching of Galis to incorporate the features of invocation of a service disclosed in Carter. That is, the Examiner's reasoning for combining Galis and Carter is based on the features that are only disclosed in Carter (i.e., to include invocation of service to simplify invocation

of service). As such, there is no suggestion for modifying the teachings of Galis as asserted by the Examiner. Moreover, Applicants submit that the phrase "simplifying the invocation a service" is broad and vague, and does not convey how incorporating invocation of service of Carter into Galis simplifies invocation of a service."

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Galis et al. clearly teaches the creating and configuring of a computer network and Carter teach the creating and configuring of network services. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Carter and Galis et al. since both concern the configuration of networked systems and as such, both are with in the same environment. The fact that the motivation to combine Galis and Carter is based solely on features that are only disclosed in Carter (i.e. that Galis does not teach of suggest creating a service) does not imply there is no suggestion for modifying the teaching of Galis. As stated above obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves (either one of the references or both) or in the knowledge generally available to one of ordinary skill in the art. In this case the motivation to combine was based on features disclosed in Carter and outlines above. In response to Applicant's argument regarding the motivation to combine as "broad and vague" the Examiner has provided new motivation that clearly

conveys how incorporating invocation of service of Carter into Galis simplifies the invocation of a service. For Applicants convenience it is recited here "…it would have been obvious to one of ordinary skill in the art that the time the invention was made to incorporate invocation of a service, as taught by, Carter into the system of Galis et al. for the purpose facilitating the invocation of a services by automating the process (Carter; Column 2 lines 50-56), thereby simplifying the service definition process such that a relatively low-skilled end user can perform it."

Applicant argues that the combination of Galis et al. and Carter do not teach "…specify how to determine technology to use in the service being created based on stored attributes of equipment in the network and stored attributes of the service"

Applicant's arguments with respect to claim 1 has been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US 7,451,071 B2
- US 2003/0028825 A1
- US 2002/0194584 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL C. MURRAY whose telephone number is 571-270-1773. The examiner can normally be reached on Monday - Friday 0800-1700 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tonia Dollinger can be reached on (571)-272-4170. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DCM/
Examiner, Art Unit 2443

/Tonia LM Dollinger/

Supervisory Patent Examiner, Art Unit 2443